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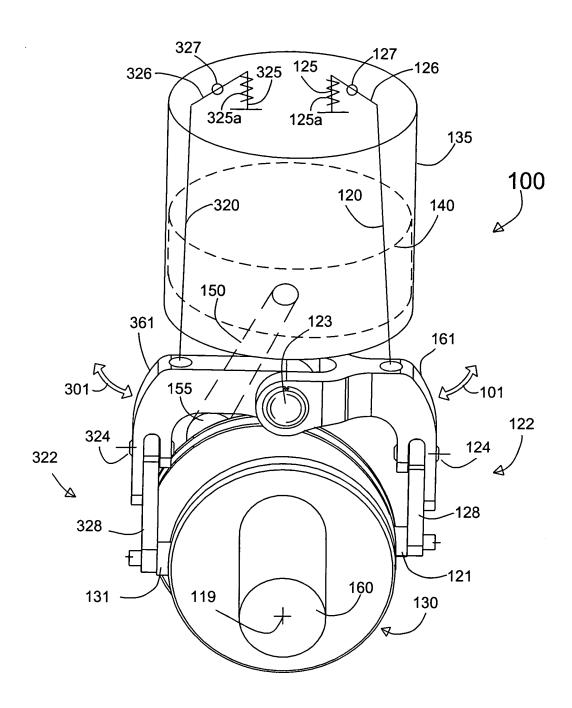


FIG. 1

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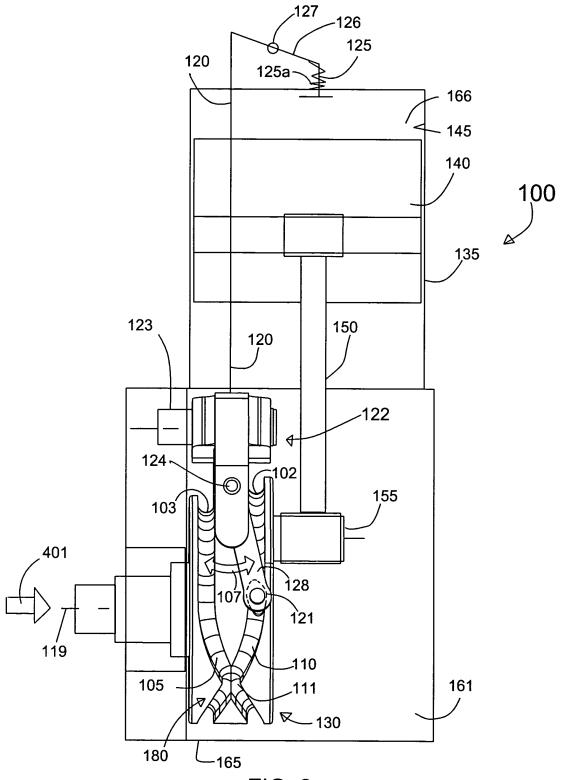


FIG. 2

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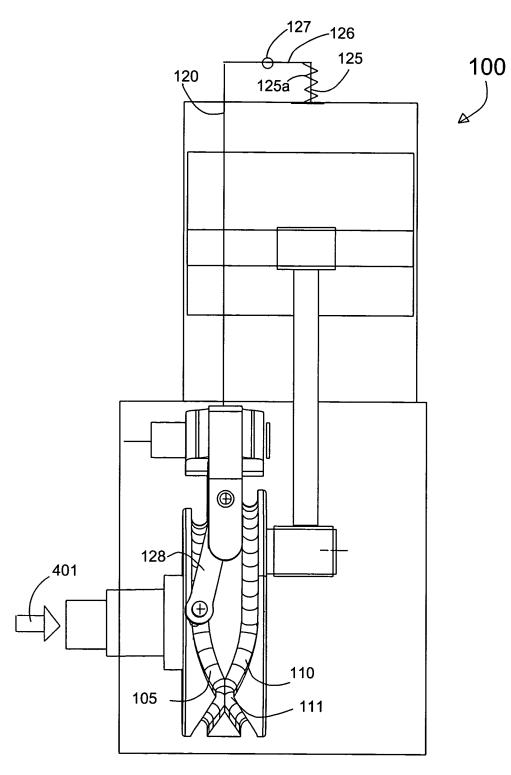


FIG. 3

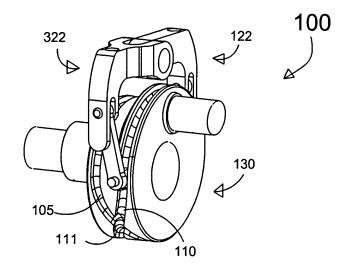


FIG. 4

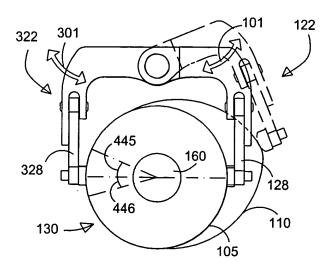


FIG. 4a

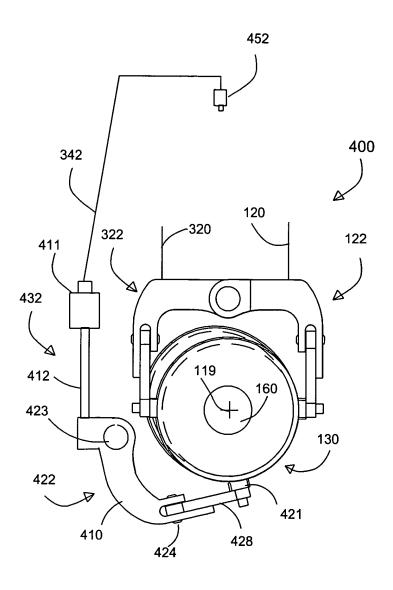
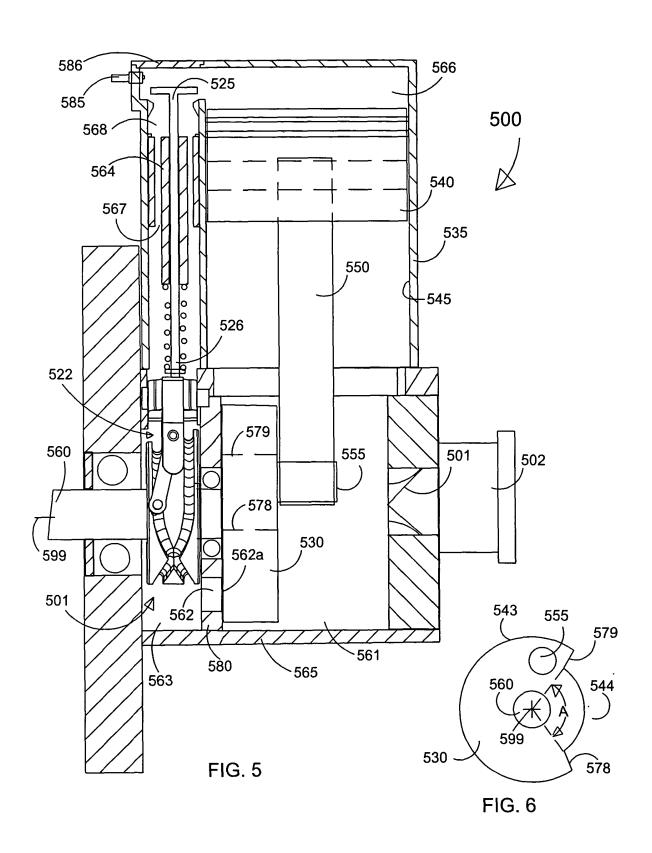
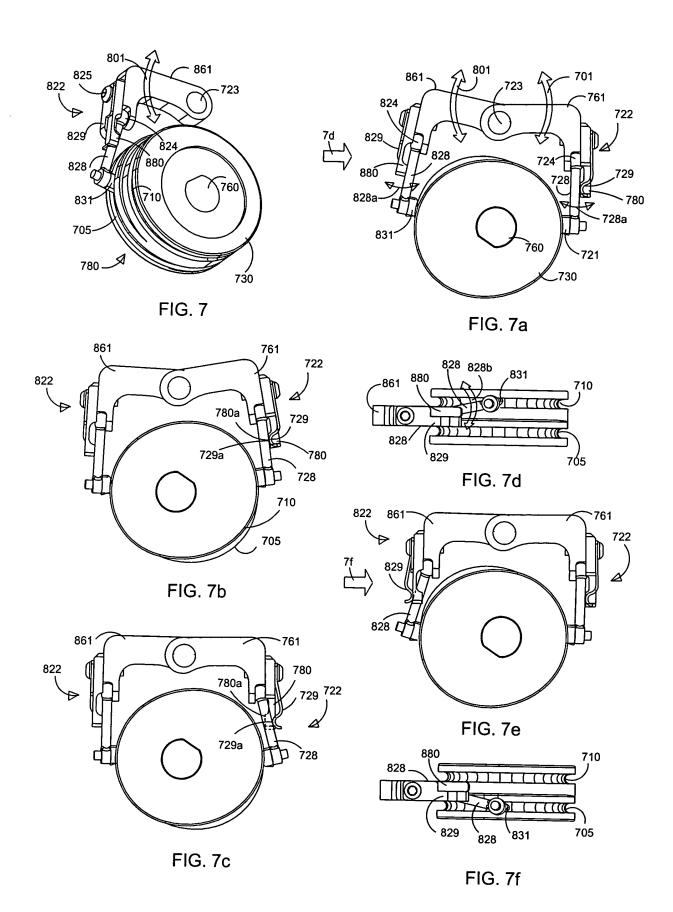


FIG. 4b



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## Title: MONO-SHAFT FOUR-STROKE ENGINE Inventors: Mavinahally et al. Page: 8 of 8

6 \ ↓ Valve lift E3 o° 720° **TDC** TDC **BDC** TDC BDC 1 Exhaust valve lift 2 Intake valve lift - conventional Piston position 3 Intake valve lift - extended expansion 4 Expansion FIG. 8 710 5 Exhaust 6 Intake 7 Compression \ 16 E3 4 710 18 E4 705 E6 È2 E8\_ 705 E5 FIG. 8b FIG. 8a 6 \ E2 <sup>2</sup> **∆** Valve lift E3 E4 **E**5 E8 Ę6 **E**1 o° TDC TDC TDC BDC **BDC** Piston position FIG. 8c ∆ Valve 12lift 18 o° TDC TDC **BDC** TDC **BDC** Piston position FIG. 8d